Zoning Overlay Districts Where critical water protection areas do not conform to zoning boundaries, overlay water protection districts are used. These superimpose additional restrictions on existing zones but do not change the underlying zoning. This approach is used for resource preservation in a number of instances, such as flood plain zoning, and is a simpler procedure than changing all the town zoning districts. An advantage of this approach is that the zones can be presented and defended as being based on a single technical factor: ground water protection. This has been considered the strongest defense against charges of exclusionary zoning or confiscation.

One potential difficulty of applying the overlay approach to wellfield protection is that the boundaries tend to be based on some form of modeling or calculations, and the lines would be difficult to locate on the ground. Unlike the Long Island hydrogeologic zones, field measurements could not be used to confirm the boundaries as they are based on assumptions of pumping patterns and recharge conditions that may not exist at a given time. It is up to the zoning enforcement officer to make a determination whether a specific development is within the zone based on a comparison of maps. Overlay district boundaries can also split single parcels or industrial parks, creating inconsistencies in their development and possibly raising equity issues among developers being subject to drastically different requirements within the same geographic area.

For all of the above reasons, some planning agencies, both within Dade County, Florida, and some towns on Cape Cod, have slightly modified the zones of influence on wellfields to take into consideration current land use patterns, property ownership, and existing zoning boundaries. This can be justified to some extent by the additional benefits to the public of special zoning such as public enjoyment of open space and preservation of natural environments. While this action may be viewed as a diversion from the technical basis for the zoning, to date it has not been successfully challenged in these areas. It may be an advantage in that the zones are not adopted strictly on the basis of one piece of information (i.e., pumping drawdown) and therefore cannot be challenged solely on the basis of the technical aspects by which that information was developed.

The Cape Cod zones of contribution have been used as overlay districts encompassing large portions of towns and several underlying zoning districts. A broad range of provisions has been built into zoning overlay districts in the towns under study in Cape Cod and Long Island. These include the following:

- Bans on such activities as landfills, toxic waste disposal, toxic materials storage and handling, and road salt storage.